



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/886,373	06/22/2001	Kathy T. Stark	80168-0123	5675
32658	7590	11/15/2004	EXAMINER	
HOGAN & HARTSON LLP ONE TABOR CENTER, SUITE 1500 1200 SEVENTEEN ST. DENVER, CO 80202			CHANKONG, DOHM	
			ART UNIT	PAPER NUMBER
			2152	

DATE MAILED: 11/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/886,373

Applicant(s)

STARK ET AL.

Examiner

Dohm Chankong

Art Unit

2152

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 April 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-95 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-95 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

- 1> Claims 1-95 are presented for examination.

Claim Objections

- 2> Claims 64-94 are objected to for being misnumbered. There are a total of 95 claims in the present application. Claims 64-94 have been misnumbered as there are two claims numbered as 64. For the purposes of this Action, claims 64-94 are referred to as 65-95, respectively. Appropriate correction is required.

Claim Rejections - 35 USC § 112

- 3> The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

- 4> Claim 39 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

- a. The following claim is rejected for having lack of proper antecedent basis:
- i. Claim 39 - "said primary server".

Claim Rejections - 35 USC § 102

- 5> The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

Art Unit: 2152

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

6> Claims 1, 2, 4 5, 11, 13-15, 19-21, 28, 29, 56-60, 71, 73-78, 88 and 93 are rejected under 35 U.S.C § 102(e) as being anticipated by Sreenivasan et al, U.S Patent Publication No. 2002/0049845 A1 [“Sreenivasan”].

7> As to claim 1, Sreenivasan discloses a network having a plurality of nodes for exchanging information [abstract], comprising:

a master node within said plurality of nodes, said master node including a primary server to run a centralized system service [paragraphs 0015, 0037, 0078, 0079]; and

a system services coordinator on each of said plurality of nodes to coordinate a function regarding said centralized system service [paragraph 0079, 0082: the membership server is analogous to a systems services coordinator].

Art Unit: 2152

8> As to claim 2, Sreenivasan discloses the network of claim 1, comprising:
wherein said plurality of nodes includes a vice node, said vice node including a secondary server to run said centralized system service [paragraphs 0015, 0063 where: Sreenivasan's N2 (backup) has equivalent functionality to the claimed vice node].

9> As to claim 4, Sreenivasan discloses the network of claim 1, wherein said master node includes a cluster membership monitor, said cluster membership monitor providing instructions to said system services coordinator [Figure 1 «items 12, 32, 34» | paragraphs 0079, 0081, 0083].

10> As to claim 5, Sreenivasan discloses the network of claim 1, wherein said function is an initialization function [paragraphs 0086, 0097].

11> As to claim 11, Sreenivasan discloses the network of claim 1, wherein said plurality of nodes includes a master-eligible node [paragraph 0063].

12> As to claim 13, Sreenivasan discloses the network of claim 1, wherein said centralized system service registers with said system services coordinator [paragraph 0083].

13> As to claim 14, Sreenivasan discloses a node within a network of nodes for exchanging information, comprising:

a centralized system service to run on a primary server [abstract | paragraphs 0063,

0073, 0078, 0079]; and

a system services coordinator to coordinate a function regarding said centralized system service [paragraph 0082].

14> As to claim 15, Sreenivasan discloses the node further comprising a cluster membership monitor to provide instructions to said system services coordinator [paragraphs 0082 where: the server provides the same functionality as the cluster membership monitor].

15> As to claim 19, Sreenivasan discloses the node of claim 14 further comprising a high availability level and an operating system level [paragraphs 0027, 0037].

16> As to claim 20, Sreenivasan discloses the node of claim 19 wherein said system service coordinator resides in said high availability level [paragraphs 0026, 0077, 0079, 0082, where: the membership server is comparable to a system service coordinator].

17> As to claim 21, as it is merely is a node that implements the same functionality of the network of claim 5, it does not teach or further define over the limitations of claim 5.

Therefore, claim 21 is rejected for the same reasons set forth in claim 5, supra.

18> As to claim 28, Sreenivasan discloses a network of a plurality of nodes, comprising:

a master node having a primary server to run a centralized system service [paragraphs 0027, 0063, 0079];

a vice node having a secondary server to run said centralized system service
[paragraphs 0027, 0063, 0079]; and
a system services coordinator to coordinate functions regarding said centralized
system service at said plurality of nodes [paragraphs 0079, 0082].

19> As to claim 29, Sreenivasan discloses the network of claim 28, wherein said secondary
server mirrors said primary server [paragraphs 0017, 0018, 0063].

20> As to claim 56, Sreenivasan discloses a method for failing a master node having
primary servers for centralized system services within a network having a plurality of nodes,
comprising:

claiming mastership of said network at a vice node and informing said centralized
system services via a system services coordinator [paragraphs 0026, 0061, 0063, 0262, 0263];
and

recovering states of said primary servers on said master node to secondary servers of
said centralized system services on said vice node [paragraph 0017, 0022].

21> As to claim 57, Sreenivasan discloses the method of claim 56, further comprising
detecting that said primary servers have been transferred [abstract | paragraph 0026].

Art Unit: 2152

22> As to claim 58, Sreenivasan discloses the method of claim 56, further comprising synchronizing a reconnection to said centralized system services at said plurality of nodes via said system services coordinator [paragraph 0248].

23> As to claim 59, Sreenivasan discloses the method of claim 56, further comprising detecting a failover condition at said master node [paragraphs 0017, 0026].

24> As to claim 60, Sreenivasan discloses the method of claim 56, further comprising electing another vice node [paragraphs 0020, 0065].

25> As to claim 71, Sreenivasan discloses a method for shutting down a node within a node within a network for exchanging information, comprising:

invoking callbacks of centralized system services on said node by a system services coordinator [paragraphs 0079, 0081, 0083];

requesting said node to be removed from said network by said system services coordinator [paragraph 0076]; and

terminating said system services coordinator [paragraph 0135].

26> As to claim 73, Sreenivasan discloses the method of claim 71, further comprising shutting down said operating system at said node [paragraph 0037, 0151].

27> As to claim 74, Sreenivasan discloses the method of claim 71 wherein said node is a

Art Unit: 2152

master node within said network [paragraphs 0027, 0063, 0079].

28> As to claim 75, Sreenivasan discloses the method of claim 74 further comprising initiating a switchover on said master node [abstract | paragraph 0017].

29> As to claim 76, Sreenivasan discloses the method of claim 71, wherein said node is a vice node within said network [paragraphs 0015, 0063 where: Sreenivasan's N2 (backup) has equivalent functionality to the claimed vice node].

30> As to claim 77, Sreenivasan discloses the method of claim 76, further comprising initializing another vice node [paragraph 0020 where: there are several backup copies to the primary node that are analogous to a vice node].

31> As to claim 78, Sreenivasan discloses the method of claim 71, further comprising rebooting said node [paragraph 0063].

32> As to claims 88 and 93, as they are merely computer program products that implement the method of claims 56 and 71, respectively, they do not teach or further define over the limitations of claims 56 and 71. Therefore, claims 88 and 93 are rejected for the same reasons set forth in claims 56 and 71, supra.

Claim Rejections - 35 USC § 103

33> The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

34> Claims 3 and 18 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Sreenivasan in view of Sun et al, U.S. Patent Publication No. 2002/0152373 A1 ["Sun"].

35> As to claim 3, Sreenivasan does not specifically disclose a network wherein said master node communicates via a carrier grade transport protocol.

36> Sun discloses a network wherein nodes communicate via a carrier grade transport protocol [paragraphs 0060 and 0071] for the obtained advantage of creating a more robust and manageable system. It would have been obvious to one of ordinary skill in the art to incorporate carrier grade transport protocol into Sreenivasan's system to take advantage of the benefits provided by protocol as taught by Sun such as simplifying the provisioning, configuration and management of network services.

37> As to claim 18, as it is merely is a node that implements the same functionality of the network of claim 3, it does not teach or further define over the limitations of claim 3.

Therefore, claim 14 is rejected for the same reasons set forth in claim 3, supra.

38> Claims 6-10, 12, 17, 22-27, 30-55, 61-70, 72, 79-87, 89-92 and 94-95 are rejected under 35 U.S.C § 103(a) as being unpatentable over Sreenivasan.

39> As to claim 6, Sreenivasan does not explicitly disclose the network wherein said function comprises a shut down function, but does disclose a function for resetting and removing a node from the membership [paragraph 0241 and 0243 where: the CMS can force a reset of a node, the "reset" functionality comparable to a shut down function]. However, it would have been obvious to one of ordinary skill in the art to have reasonably inferred that Sreenivasan's reset and node removal functionality is comparable to a shutdown function.

40> As to claim 7, Sreenivasan does not explicitly disclose the network wherein said function comprises a promote function but does disclose a function whereby a backup node is promoted after a primary node fails [paragraphs 0015, 0073]. It would have been obvious for one of ordinary skill in the art to have reasonably inferred that Sreenivasan's method of assigning a backup node to be the new primary as equivalent to a promote function.

41> As to claim 8, Sreenivasan does not explicitly disclose the network wherein said function comprises a demote function but does disclose a function that promotes a backup node over a failed primary node [paragraph 0063]. It would have been obvious for one of ordinary skill in the art to have reasonably inferred that Sreenivasan's method of removing a

Art Unit: 2152

failed primary node by assigning a backup as the new primary is comparable in functionality to a demote function (for the failed primary node).

42> As to claim 9, Sreenivasan does not explicitly disclose the network wherein said function comprises a disqualify function but does disclose a function that checks a flag before allowing a node to join the cluster (where the setting of the flag to false disqualifies the node) [paragraphs 0222, 0226]. It would have been obvious for one of ordinary skill in the art to have reasonably inferred that Sreenivasan's flag functionality is comparable to a disqualify function.

43> As to claim 10, Sreenivasan does not explicitly disclose the network wherein said function comprises a qualify function but does disclose a function that checks a flag before allowing a node to join the cluster (where the setting of the flag to true qualifies the node) [paragraphs 0220, 0226]. It would have been obvious for one of ordinary skill in the art to have reasonably inferred that Sreenivasan's flag functionality is comparable to a disqualify function.

44> As to claim 12, Sreenivasan does not specifically disclose registering callback actions but does disclose a network wherein said system services coordinator registers commands for said centralized system service [paragraphs 0079, 0081, 0082, 0083, 0084]. It would have been obvious for one of ordinary skill in the art to have reasonably inferred that Sreenivasan's

Art Unit: 2152

commands are analogous to callback actions as they have comparable functionality within the network.

45> As to claim 17, Sreenivasan does not specifically disclose a component role assignment manager, but does disclose a cluster membership daemon (CMD) that provides component role assignment [paragraphs 0109, 0142 where the CMD has functionality to determine which node is the leader of the cluster]. It would have been obvious for one of ordinary skill in the art to have reasonably inferred that Sreenivasan's CMD is analogous to the claimed component role assignment manager as they have comparable functionality.

46> As to claims 22-26, as they are merely nodes that implement the same functionality of the network of claims 6-10, respectively, it does not teach or further define over the limitations of claims 6-10. Therefore, claims 22-26 are rejected for the same reasons set forth in claims 6-10, supra.

47> As to claim 27, Sreenivasan does not specifically disclose a node with a function including a callback sequence but does disclose using messages to trigger initialization of the nodes [paragraphs 0032, 0112, 0116, 0139, 0168]. It would have been obvious for one of ordinary skill in the art to have reasonably inferred that Sreenivasan's messaging functionality would be analogous to a callback sequence as they have comparable functionality.

48> As to claim 30, Sreenivasan does not specifically disclose a component role assignment manager but does disclose a group communication service (GCS) manager that coordinates an application at said plurality of nodes [paragraph 0148, 0149, 0151]. Therefore, it would have been obvious for one of ordinary skill in the art to have reasonably inferred that Sreenivasan's GCS is analogous to a component role assignment manager.

49> As to claim 31, Sreenivasan discloses a method for coordinating a system service within a network having a plurality of nodes, comprising:

receiving a request at a system services coordinator, said system services coordinator having a component at each of said plurality of nodes [paragraphs 0079 0085, 0097];

reacting to said function by said system services coordinator on said node and communicating said reaction to said system services coordinator [paragraphs 0082, 0088, 0089, 0097].

While Sreenivasan discloses using commands for performing a function at one of said plurality of nodes in response to said request [paragraphs 0032, 0112, 0116] but does not specifically disclose using a callback sequence. However, it would have been obvious for one of ordinary skill in the art to have reasonably inferred that Sreenivasan's messaging and command functionality would be analogous to a callback sequence as they have comparable functionality.

50> As to claim 32, Sreenivasan does not explicitly disclose callback functions having levels, the levels correlating to completing stages, but does disclose command functionality

Art Unit: 2152

having steps and phases, the phases correlating to different stages of the command [paragraphs 0085, 0086, 0087, 0088, 0091, 0092]. It would have been obvious for one of ordinary skill in the art to have reasonably inferred that Sreenivasan's three phases in his membership command function is analogous to the claimed callback function with levels because they have comparable functionality.

51> As to claim 33, Sreenivasan does not explicitly disclose further comprising receiving said levels at said system services coordinator as said stages are completed, but does disclose sending and receiving acknowledgements for each phase [paragraphs 0139, 0143 where: the membership service commands are comparable to the callback functions]. It would have been obvious for one of ordinary skill in the art to have reasonably inferred that Sreenivasan's acknowledgement messages of each phase is analogous to the claimed functionality of receiving said levels.

52> As to claim 34, Sreenivasan discloses further comprising registering said callback sequence with said system services coordinator [paragraphs 0083, 0084 where: membership server is analogous to system services coordinator, and set of interfaces comparable to callback sequence].

53> As to claim 35, Sreenivasan discloses the method of claim 34, wherein said callback sequence is registered from said system services coordinator [paragraphs 0083, 0084].

54> As to claim 36, Sreenivasan discloses the method of claim 31, further comprising transitioning said system services according to said callback sequence [paragraphs 0085, 0086, 0087, 0088, 0092, 0137, 0138, 0143].

55> As to claim 37, Sreenivasan discloses the method of claim 31, further comprising interfacing said system services with said plurality of nodes [abstract | Figure 1 | paragraph 0079].

56> As to claim 38, Sreenivasan discloses a method for coordinating a function for a system service server on a node [abstract | paragraph 0079], comprising:

Sreenivasan does not explicitly disclose a callback sequence or levels, but does disclose:

receiving a command sequence at said system service server from a system services coordinator [paragraphs 0032, 0085, 0089, 0097].

determining phases of said command sequence, said phases correlating to stages of completing said function [paragraphs 0032, 0085, 0086, 0087, 0088 where: said function is membership servicing];

receiving said phases at said system services coordinator [paragraphs 0085, 0097]; and
publishing events from said node by said system services coordinator correlating to said received phases [paragraphs 0237, 0238, 0239, 0240, 241].

It would have been obvious for one of ordinary skill in the art to have reasonably inferred that Sreenivasan's command sequence and phases are analogous to the claimed callback sequence and levels as they have comparable functionality.

57> As to claim 39, Sreenivasan disclose the method of claim 38, further communicating said levels to said primary server [paragraphs 0238, 0239].

58> As to claim 40, Sreenivasan discloses the method of claim 38, wherein said system service server resides on a master node, and said system services coordinator interfaces with said master node [paragraphs 0169, 0251, 0253, 0254, 0255, 0257, 0263].

59> As to claim 41, Sreenivasan discloses a method for initializing a node within a network having centralized system services, comprising:

registering said centralized system services on said node with a system services coordinator [paragraphs 0083, 0084 where: membership server is analogous to system services coordinator, and set of interfaces comparable to callback sequence];

triggering an initializing function having levels [paragraphs 0139, 0168]; and

receiving notification at said system services coordinator for completing said levels [paragraph 0139].

Art Unit: 2152

60> As to claim 42, Sreenivasan discloses the method of claim 41, further comprising retrieving boot parameters for said node [paragraph 0061 where: the state of the failed server is analogous to boot parameters as the state is used to initialize the backup node].

61> As to claim 43, Sreenivasan discloses the method of claim 41, further comprising starting up an operating system on said node [paragraphs 0027 and 0037].

62> As to claim 44, Sreenivasan discloses the method of claim 41, further comprising loading a configuration table of said network [paragraph 0149, 0155 where: Sreenivasan's GCS function keeps the nodes of the network up to date with the configuration of said network which is analogous in functionality to the claimed configuration table].

63> As to claim 45, Sreenivasan discloses the method of claim 41, further comprising participating in formation protocol for said network by sending information about said node [paragraphs 0110, 0152, 0155].

64> As to claim 46, Sreenivasan discloses the method of claim 41, comprising initializing non-centralized system services on said node by registering said non-centralized system services with said system services coordinator [paragraphs 0079, 0263].

65> As to claim 47, Sreenivasan discloses a method for coordinating initialization in a network having a plurality of nodes, comprising:

registering centralized system services within said network with a system services coordinator [paragraphs 0083, 0148];

electing a master node within said network and sending information on said master node to said plurality of nodes [paragraph 0097];

using callbacks registered at said system services coordinator to trigger initialization levels at said plurality of nodes [paragraphs 0027, 0086]; and

informing said plurality of nodes when said master node completes said initialization levels via said system services coordinator [paragraphs 0086, 0089, 0097, 0108].

It would have been obvious for one of ordinary skill in the art to have reasonably inferred that Sreenivasan's command sequence and phases are analogous to the claimed callback sequence and levels as they have comparable functionality.

66> As to claim 48, Sreenivasan discloses the method of claim 47 further comprising registering said system services coordinator with a membership monitor within said network [paragraphs 0073, 0082].

67> As to claim 49, Sreenivasan discloses the method of claim 48, wherein said electing includes claiming said master node by said membership monitor [paragraphs 0091, 0097, 0134].

68> As to claim 50, Sreenivasan discloses the method of claim 47, further comprising loading a configuration table of said network [paragraph 0149, 0155 where: Sreenivasan's GCS

Art Unit: 2152

function keeps the nodes of the network up to date with the configuration of said network which is analogous in functionality to the claimed configuration table].

69> As to claim 51, Sreenivasan discloses the method of claim 47 further comprising electing a vice node within said network [paragraphs 0015, 0063 where: Sreenivasan's N2 (backup) has equivalent functionality to the claimed vice node].

70> As to claim 52, Sreenivasan discloses a method for switching over a master node having primary servers for centralized system services within a network having a plurality of nodes, comprising:

informing a system services coordinator on said master node of a loss of master eligibility on said master node [paragraphs 0063, 0073];

invoking switchover callbacks registered at said system services coordinator [paragraphs 0063, 0073 where: Sreenivasan's commands are analogous to the callbacks]; and

transferring states of said primary servers to secondary servers for said centralized system services at a vice node [paragraphs 0017, 0063].

71> As to claim 53, Sreenivasan discloses the method of claim 52, further comprising updating said plurality of nodes on said transferred states via said system services coordinator [paragraph 0097, 0134].

72> As to claim 54, Sreenivasan discloses the method of claim 52, further comprising updating non-centralized system services via said system services coordinator [paragraphs 0249, 0250, 0251, 0261].

73> As to claim 55, Sreenivasan discloses the method of claim 52, further comprising triggering a switchover condition on said master node [abstract | paragraph 0017].

74> As to claim 61, Sreenivasan discloses a method for demoting a master eligible node within a network for exchanging information comprising:

initiating a demote callback sequence from a system services coordinator [paragraph 0063 where: removing a failed primary node by assigning a backup as the new primary is comparable in functionality to a demote function (for the failed primary node).];

transitioning centralized system services servers on said node to a spare state [paragraph 0061, 0238]; and

updating said system services coordinator [paragraph 0169, 0173, 0181].

75> As to claim 62, Sreenivasan discloses the method of claim 61, further comprising triggering a switchover condition on said node [abstract | paragraphs 0017, 0026].

76> As to claim 63, Sreenivasan discloses the method of claim 61, further comprising detecting a failover condition on said node [paragraphs 0017, 0026].

Art Unit: 2152

77> As to claim 64, Sreenivasan discloses the method of claim 61, further comprising notifying said system services coordinator that said node is to be demoted [paragraphs 0073, 0209].

78> As to claim 65, Sreenivasan discloses a method for promoting a node to be master eligible within a network for exchanging information comprising:

initiating a promote callback sequence from a system services coordinator [paragraphs 0015, 0073 where: it would have been obvious for one of ordinary skill in the art to have reasonably inferred that Sreenivasan's method of assigning a backup node to be the new primary as equivalent to a promote function];

transitioning centralized system services servers on said node to an availability state [paragraph 0061, 0238]; and

updating said system services coordinator [paragraph 0169, 0173, 0181].

79> As to claim 66, Sreenivasan discloses the method of claim 64, further comprising notifying said system services coordinator that said node is to be promoted [paragraphs 0073, 0074, 0076, 0250].

80> As to claim 67, Sreenivasan discloses a method for disqualifying a node from being master eligible within a network for exchanging information, comprising:

initiating a disqualify callback sequence from a system services coordinator

Art Unit: 2152

[paragraphs 0222, 0226 where: Sreenivasan's function checks a flag before allowing a node to join the cluster (where the setting of the flag to false disqualifies the node)];

setting a master eligible attribute at said node [paragraphs 0222, 0226];

transitioning centralized system servers on said node to an offline state [paragraph 0061, 0238].

81> As to claim 68, Sreenivasan discloses the method of claim 66, further comprising notifying said system services coordinator that said node is to be disqualified [paragraphs 0073, 0074, 0076, 0250].

82> As to claim 69, Sreenivasan discloses a method for qualifying a node to be master eligible within a network for exchanging information, comprising:

initiating a qualify callback sequence from a system services coordinator [paragraphs 0220, 0226 where: a function that checks a flag before allowing a node to join the cluster (where the setting of the flag to true qualifies the node)];

setting a master eligible attribute at said node [paragraphs 0222, 0226];

transitioning centralized system servers on said node to a spare state [paragraph 0061, 0238].

83> As to claim 70, Sreenivasan discloses the method of claim 69 further comprising notifying said system services coordinator that said node is to be promoted [paragraphs 0073, 0074, 0076, 0250].

Art Unit: 2152

84> As to claim 72, Sreenivasan discloses the method of claim 71, further comprising terminating said centralized system services when all messages and commands are received at said system services coordinator [paragraph 0139 where: Sreenivasan's commands are analogous to callbacks].

85> As to claim 79, Sreenivasan discloses a method for removing a node from a network, comprising:

initiating a shutdown callback sequence from a system services coordinator, wherein said shutdown callback sequence includes levels [paragraphs 0085, 0241, 0243 where: the CMS can force a reset of a node, the "reset" functionality comparable to a shut down function and his phases are comparable to levels];

notifying said system services as said levels are completed and terminating centralized system services on said node [paragraphs 0085, 0089, 0110, 0134, 0135, 0151]; and terminating said system service coordinator [paragraph 0135].

86> As to claim 80, Sreenivasan discloses the method of claim 79, further comprising requesting said node to be deleted from said network [paragraph 0263].

87> As to claim 81, Sreenivasan discloses a method for coordinating centralized system services on a node within a network, said network exchanging information with said node, comprising:

initializing said node by an initialization function according to a system services coordinator [paragraphs 0086, 0093, 0110];

invoking a callback sequence at said node by said system services coordinator [paragraphs 0079, 0081, 0083];

updating said centralized system services and non-centralized system services with information received by said system services coordinator paragraph 0249, 0250, 0251, 0261];

communicating with a master node within said network and synchronizing said initialization function with said master node [paragraph 0097];

determining a change in configuration of said node within said network [paragraphs 0097, 0108 where: membership changes are comparable in functionality to a change in configuration]; and

executing a function at said node according to said system services coordinator, said function responding to said change in configuration [paragraphs 0109, 0110, 011, 0112].

88> As to claim 82, Sreenivasan discloses the method of claim 80, further comprising notifying a membership monitor of said network of said change of configuration by said system services coordinator [paragraphs 0082, 0083, 0108, 0110].

89> As to claims 83-87, 89-92 and 94-95, as they are merely computer program products that implement the steps of the method of claims 31, 38, 41, 47, 52, 61, 65, 67, 69, , 79 and 81, respectively, they do not teach or further define over the limitations of claims 31, 38, 41, 47, 52,

Art Unit: 2152

61, 65, 67, 69, , 79 and 81. Therefore, claims 83-87, 89-92 and 94-95 are rejected for the same reasons set forth in above claims 31, 38, 41, 47, , 52, 61, 65, 67, 69, , 79 and 81, supra.

90> Claim 16 is rejected under 35 U.S.C § 103(a) as being unpatentable over Sreenivasan, in view of McCanne et al, U.S Patent No. 6,415,323 ["McCanne"].

91> As to claim 16, Sreenivasan does not explicitly disclose a node wherein said centralized system service comprises a naming service.

92> McCanne does disclose a node within a network of nodes with a centralized system service comprising a naming service [column 4 «lines 59-63» | column 9 «lines 28-47»]. It would have been obvious to one of ordinary skill in the art to incorporate McCanne's naming service into Sreenivasan's node to allow services within his network to be more easily accessed by a published name.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dohm Chankong whose telephone number is (571)272-3946. The examiner can normally be reached on 8:00AM - 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Follansbee can be reached on (703)305-8498. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2152

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DC



Dung C. Dinh
Primary Examiner